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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/062,562	02/05/2002	Yuichi Satsu	62807-033	1929
7590	09/19/2006		EXAMINER	
MCDERMOTT, WILL & EMERY 600 13th Street, N.W. Washington, DC 20005-3096			FEELY, MICHAEL J	
			ART UNIT	PAPER NUMBER
			1712	

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/062,562	SATSU ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Michael J. Feely	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 07 July 2006.
- 2a) This action is **FINAL**.                                   2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,2,4,5 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1,2,4,5 and 7-10 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 12 December 2005 is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### *Pending Claims*

Claims 1, 2, 4, 5, and 7-10 are pending.

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 2, 4, 5, and 7-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claims 1, 2, 4, 5, and 7-10 rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are:

The inorganic filler set forth in the instant claims now features the following layered configuration:

Surface treatment film
Insulation treatment film
Metal powder (5 µm or less)

wherein the, "surface treatment film, which is chemically bonded with the metal powder and the organic resin, on a surface of the insulated treated metal powder of the inorganic filler," (see also *Figure 2*). It is unclear how this surface treatment film can be chemically bonded to the metal powder when the insulation treatment serves as an intermediate layer between the two.

The following language is suggested to overcome the rejection:

(1) A high dielectric constant composite material having a dielectric constant of 15 or above in the frequency region of from 100 MHz to 40 GHz, comprising: an organic resin and, dispersed therein, an inorganic filler, wherein the inorganic filler comprises a composite filler comprising: a core metal powder particle having an average particle size of 5  $\mu\text{m}$  or less or a core agglomerate of metal powder particles having an average agglomerate size of 5  $\mu\text{m}$  or less, an insulating film covering the core, and a surface treatment film covering the insulating film; wherein the surface treatment film is chemically bonded to the insulating film and the organic resin.

(4) A high dielectric constant composite material according to claim 1, wherein the core is an agglomerate of metal powder particles having an average agglomerate size of 5  $\mu\text{m}$  or less.

(5) A high dielectric constant composite material according to claim 1, wherein the core of the composite filler further comprises a metallic covering layer on the surface thereof with a thickness of 1000 to 1 nm, wherein the metallic covering layer comprises at least one metal selected from the group consisting of Cr, Cd, Zn, and Fe.

(7) A high dielectric constant composite material according to claim 1, wherein said insulating layer is provided by chemical treatment using an inorganic salt.

(8) A high dielectric constant composite material according to claim 1, wherein the inorganic filler further comprises a metal oxide mixed with the composite filler.

***Previous Claim Rejections - 35 USC § 102/103***

4. The rejection of claim 3 under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Takaya et al. (Pub. No.: US 2002/0039667 A1) has been rendered moot by the cancellation of claim 3.
5. The rejection of claims 1, 2, 4, and 7-10 under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Takaya et al. (Pub. No.: US 2002/0039667 A1) has been overcome by amendment.

***Previous Claim Rejections - 35 USC § 103***

6. The rejection of claim 5 under 35 U.S.C. 103(a) as being unpatentable over Takaya et al. (Pub. No.: US 2002/0039667 A1) has been overcome by amendment.

***Allowable Subject Matter***

7. Claims 1, 2, 4, 5, and 7-10 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Communication***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Michael J. Feely  
Primary Examiner  
Art Unit 1712

September 15, 2006

**MICHAEL FEELY  
PRIMARY EXAMINER**